

Claims

- [c1] A night vision system for a vehicle comprising:
a first light source for illuminating a region proximate the vehicle, said light source generating a first night vision pulse signal;
a light sensor receiving a second night vision pulse signal from an approaching vehicle, wherein said second night vision pulse blinds said first night vision pulse signal; and
a controller shifting pulses from said first night vision pulse signal in a different direction than pulses from said second night vision pulse signal until an anti-blinding of said first night vision pulse signal by said second night vision pulse signal is achieved.
- [c2] The system according to claim 1, wherein said approaching vehicle comprises a second controller shifting said second night vision pulse signal in a different direction as said first night vision pulse signal until anti-blinding is achieved.
- [c3] The system according to claim 1, further comprising an electronic compass comprising zones comprising dominant zones and recessive zones,

wherein said controller synchronizes said first night vision pulse signal with a timing signal of said second night vision pulse signal during said anti-blinding.

[c4] The system according to claim 3, wherein half of said zones are dominant zones and half of said zones are recessive zones.

[c5] The system according to claim 3, wherein said controller only shifts said first night vision pulse signal until said anti-blinding is achieved.

[c6] The system of claim 1, wherein said second night vision pulse signal comprises an infrared signal and wherein said sensor comprises a photodiode filtered for a wavelength of said infrared signal.

[c7] The system of claim 1, wherein said first light source is disposed pointing in a direction of travel of the vehicle or pointing behind the vehicle.

[c8] The system according to claim 1, wherein said controller is programmed to pulse said first light source at a duty cycle of 50% or less.

[c9] The system according to claim 1, further comprising:
a second light source illuminating region forward of the vehicle;

a third light source illuminating a region rearward of the vehicle;

wherein said first light source operates at a first wavelength, said second light source operates at a second wavelength, and said third light source operates at a third wavelength, said controller compensating for blinding of said second light source and said third light source.

- [c10] An anti-blinding method for a vehicle comprising:
 - generating a first light pulse train from the vehicle;
 - detecting a second light pulse train from a second approaching vehicle blinding said first light pulse train from the vehicle; and
 - shifting said first light pulse train by increments until anti-blinding is achieved through offsetting said first light pulse train from said second light pulse train.
- [c11] The method according to claim 10, further comprising:
 - determining dominant zones and recessive zones on an electric compass, whereby said dominant zones include said second light pulse train and said recessive zones include said first light pulse train.
- [c12] The method according to claim 11, further comprising
 - synchronizing a timing signal of said first light pulse train with a timing signal of said second light pulse train

as a function said dominant zones and said recessive zones.

- [c13] The method according to claim 10, further comprising: shifting said second light pulse train until anti-blinding is achieved.
- [c14] The method according to claim 10, wherein detecting further comprises detecting said second light pulse train from a rear facing or a front facing sensor coupled to the vehicle.
- [c15] The method according to claim 10, further comprising optimizing a space placement between successive pulses of said second light pulse train for offsetting said first light pulse train therewith.
- [c16] The method according to claim 10, further comprising: generating a night vision display of the second vehicle as a function of said first light pulse train signal.
- [c17] An anti-blinding method for a first vehicle approached by a second vehicle comprising:
 - generating a first light pulse train from the vehicle;
 - detecting a second light pulse train from the second vehicle blinding said first light pulse train from the vehicle;
 - determining dominant zones and recessive zones on an electric compass, whereby said dominant zones include

said second light pulse train and said recessive zones include said first light pulse train;
synchronizing a timing signal of said first light pulse train with a timing signal of said second light pulse train as a function said dominant zones and said recessive zones; and
shifting said first light pulse train by increments until anti-blinding is achieved.

[c18] The method according to claim 17, further comprising:
illuminating a region proximate the vehicle with said first light pulse train comprising a first light source operating at a first wavelength;
pulse illuminating a region forward of the vehicle, said forward pulse being at a second wavelength;
pulse illuminating a region rearward of the vehicle, said rearward pulse being different than said forward pulse in either wavelength or duration.

[c19] The method according to claim 17, further comprising:
compensating for blinding from night vision signals received in both a rearward facing sensor and a forward facing sensor.

[c20] The method according to claim 17, further comprising:
generating a night vision display of the second vehicle as a function of said first light pulse train signal.

